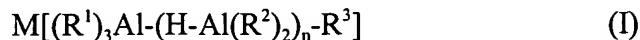


Claims:

1. A method for electrolytic coating of materials with aluminum, magnesium or alloys of aluminum and magnesium, in which method the material is immersed in an electrolyte for pretreatment, being connected as anode therein, and electrolytic coating is performed in the same electrolyte immediately thereafter, the electrolytic bath including organoaluminum compounds of general formulas (I) and (II)



as electrolyte, wherein n is equal to 0 or 1, M is sodium or potassium, and R¹, R², R³, R⁴ can be the same or different, R¹, R², R³, R⁴ being a C₁-C₄ alkyl group, and a halogen-free, aprotic solvent being used as solvent for the electrolyte.

2. The method according to claim 1, characterized in that a mixture of the complexes K[AlEt₄], Na[AlEt₄] and AlEt₃ is employed as electrolyte.

3. The method according to claim 2, characterized in that the molar ratio of said complexes to AlEt₃ is from 1:0.5 to 1:3, preferably 1:2.

4. The method according to claim 2 or 3, characterized in that 0 to 25 mole-%, preferably 5 to 20 mole-% Na[AlEt₄] is employed, relative to the mixture of the complexes K[AlEt₄] and Na[AlEt₄].

5. The method according to one or more of claims 1 to 4, characterized in that a mixture of 0.8 mol K[AlEt₄], 0.2 mol Na[AlEt₄], 2.0 mol AlEt₃ in 3.3 mol toluene is used as electrolyte.

6. The method according to claim 1, characterized in that a mixture of Na[Et₃Al-H-AlEt₃] and Na[AlEt₄] and AlEt₃ is used as electrolyte.

7. The method according to claim 6, characterized in that the molar ratio of Na[Et₃Al-H-AlEt₃] to Na[AlEt₄] is from 4:1 to 1:1, preferably 2:1.

8. The method according to claim 6 or 7, characterized in that the molar ratio of Na[AlEt₄] to AlEt₃ is 1:2.

9. The method according to one or more of claims 6 to 8, characterized in that a mixture of 1 mol Na[Et₃Al-H-AlEt₃], 0.5 mol Na[AlEt₄] and 1 mol AlEt₃ in 3 mol toluene is used as electrolyte.

10. The method according to one or more of claims 1 to 9, characterized in that electrolytic coating is effected at temperatures of from 80 to 105°C, preferably from 91 to 100°C.

11. The method according to one or more of claims 1 to 10, characterized in that pretreatment is performed for a period of from 1 to 20 minutes, preferably from 5 to 15 minutes.

12. The method according to one or more claims 1 to 11, characterized in that pretreatment is performed at an anodic load of the materials with a current density of from 0.2 to 2 A/dm², preferably from 0.5 to 1.5 A/dm².

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